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Conference Abstract

Linking and the Role of the Material Citation

Jeremy A. Miller[‡,§], Donat Agosti[§], Marcus Guidoti[§], Francisco Andres Rivera Quiroz[‡,|]

‡ Naturalis Biodiversity Center, Leiden, Netherlands
§ Plazi, Bern, Switzerland
| Leiden University, Leiden, Netherlands

Corresponding author: Jeremy A. Miller (jeremy.miller@naturalis.nl), Donat Agosti (agosti@plazi.org)

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Abstract

Citing the specimens used to describe new species or augment existing taxa is integral to the scholarship of taxonomic and related biodiversity-oriented publications. These so-called material citations (Darwin Core Term MaterialCitation), linked to the natural history collections in which they are archived, are the mechanism by which readers may return to the source material upon which reported observations are based. This is integral to the scientific nature of the project of documenting global biodiversity. Material citation records typically contain such information as the location and date associated with the collection of a specimen, along with other data, and taxonomic identification. Thus, material citations are a key line of evidence for biodiversity informatics, along with other evidence classes such as database records of specimens archived in natural history collections, human observations not linked to specimens, and DNA sequences that may or may not be linked to a specimen. Natural history collections are not completely databased and records of some occurrences are only available as material citations. In other cases, material citations can be linked to the record of the physical specimen in a collections database. Taxonomic treatments, sections of publications documenting the features or distribution of a related group of organisms (Catapano 2019), may contain citations of DNA sequences, which can be linked to database records. There is potential for bidirectional linking that could contribute data elements or entire records to collections and DNA databases, based on content found in material citations. We compare material citations data to other major sources of biodiversity records (preserved specimens, human observations, and material samples). We present pilot project data that reconcile material citations with their database records, and track all material citations across the taxonomic history of a species.

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Keywords

biodiversity, bidirectional linking, Darwin Core, GBIF, MaterialCitation, taxonomic treatment

Presenting author

Jeremy A. Miller

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